

In the Claims:

Rewrite as follows:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. **(Previously Presented)** A method for producing a glycosylated biologically active alpha 1-antitrypsin polypeptide having the amino acid coding sequence of alpha 1-antitrypsin in the yeast *Pichia pastoris* in a fermentor, comprising the step of culturing a strain of said yeast selected from the group consisting of KM71 and SMD1168H, which strain comprises an expression cassette that contains a copy of a DNA sequence operably encoding said alpha 1-antitrypsin and operably associated with DNA encoding the yeast *Saccharomyces cerevisiae* alpha mating

factor pre-pro sequence under the regulation of a promoter obtained from a methanol responsive gene of *Pichia pastoris* in a medium at a pH of about 6.8.

14. **(Presently Amended)** The method of claim 13 wherein the amino acid coding sequence of alpha 1-antitrypsin/~~alpha mating factor pre-pro fusion protein~~ is operatively linked to an inducible AOX1 promoter.
15. **(Cancelled)** The method of claim 13 wherein the DNA sequence encoding alpha 1-antitrypsin is operably linked to a DNA sequence encoding *Saccharomyces cerevisiae* alpha mating factor pre-pro sequence such that a fusion protein is produced that comprises the alpha 1-antitrypsin amino acid sequence linked to a *Saccharomyces cerevisiae* secretin signal and that the coding sequence for the fusion protein is operably linked to said promoter.
16. **(Presently Amended)** The method of claim 13 wherein the expression cassette integrated into the yeast genome is on a DNA fragment which comprises 3' and 5' flanking sequences having sufficient homology to target sequence in the target yeast host cell for the DNA fragment to effect site directed integration of the DNA fragment into the target sequence.
17. **(Presently Amended)** The method of claim 13 ~~wherein~~ wherein the expression cassette includes in the direction of transcription a transactional terminator obtained from the *Pichia pastoris* gene.
18. **(Previously Presented)** The method of claim 13 wherein said strain is KM71.
19. **(Previously Presented)** The method of claim 13 wherein said strain is SMD1168H.

20. **(Cancelled)** The method of claim 13 including a plasmid selected from the group consisting of pGAP_z and pPIC₂.
21. **(Withdrawn)** Alpha 1-antitrypsin produced by the method of claim 13.
22. **(New)** A method of producing a glycosylated biologically active alpha 1-antitrypsin polypeptide having the amino acid coding sequence of alpha 1-antitrypsin in the yeast *Pichia pastoris* in a fermentor, comprising the step of culturing a strain of said yeast selected from the group consisting of KM71 and SMD1168H, which strain comprises an expression cassette on a fragment that includes sequences of 5' and 3' ends that are homologous to introduction into the host yeast cell which contains a sequence functional for both the expression and the secretion process and that contains a copy of a DNA construct operably encoding said alpha 1-antitrypsin and operably associated with DNA encoding the yeast *Saccharomyces cerevisiae* alpha mating factor pre-pro sequence under the regulation of a promoter obtained from a methanol responsive gene of *Pichia pastoris* in a medium at a pH of about 6.8.